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PAN D ART UNIT PAPER NUMBER

7

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This is a communication from the examiner in charge of your application.  
COMMISSIONER OF PATENTS AND TRADEMARKS

DATE MAILED: 2/20/95

09/15/95

Ex. 1st

This application has been examined  Responsive to communication filed on 7/17/95, May 22, 95  This action is made final.

A shortened statutory period for response to this action is set to expire 10/16/95 months(s), \_\_\_\_\_ days from the date of this letter.  
Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133

Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

1.  Notice of References Cited by Examiner, PTO-892.
2.  Notice of Draftsman's Patent Drawing Review, PTO-948.
3.  Notice of Art Cited by Applicant, PTO-1449.
4.  Notice of Informal Patent Application, PTO-152.
5.  Information on How to Effect Drawing Changes, PTO-1474..
6.

Part II SUMMARY OF ACTION

1.  Claims 26-44 are pending in the application.

Of the above, claims NONE are withdrawn from consideration.

2.  Claims 1-25 have been cancelled.

3.  Claims \_\_\_\_\_ are allowed.

4.  Claims 26-44 are rejected.

5.  Claims \_\_\_\_\_ are objected to.

6.  Claims \_\_\_\_\_ are subject to restriction or election requirement.

7.  This application has been filed with informal drawings under 37 C.F.R. 1.85 which are acceptable for examination purposes.

8.  Formal drawings are required in response to this Office action.

9.  The corrected or substitute drawings have been received on \_\_\_\_\_. Under 37 C.F.R. 1.84 these drawings are  acceptable;  not acceptable (see explanation or Notice of Draftsman's Patent Drawing Review, PTO-948).

10.  The proposed additional or substitute sheet(s) of drawings, filed on \_\_\_\_\_, has (have) been  approved by the examiner;  disapproved by the examiner (see explanation).

11.  The proposed drawing correction, filed \_\_\_\_\_, has been  approved;  disapproved (see explanation).

12.  Acknowledgement is made of the claim for priority under 35 U.S.C. 119. The certified copy has  been received  not been received  been filed in parent application, serial no. \_\_\_\_\_; filed on \_\_\_\_\_.

13.  Since this application appears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213.

14.  Other - See attached.

EXAMINER'S ACTION

Art Unit: 2302

1. Claims 26-44 are presented for examination. Claims 1-25 have been canceled.
2. Claims 26-44 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
3. As to claim 26, the word "it" is indefinite. Furthermore, it is unclear whether the word : "traces" is referring to the free style handwritten user input, or it is referring to any type of trace, such as restricted handwritten patterns ?
4. As to claim 27, the structural relation between the "means for displaying the mathematical expression" and the "means for displaying a result" is unclear. For example, are the two means for displaying directly connected or indirectly connected ?
5. A proper antecedent basis is lacking for each of the following :
  - a) "...the mathematical expressions..." claim 26, line 9 (Exr's comment: it is not sure whether the "mathematical expression" is referring to one of the "mathematical expressions", or a new mathematical expression ?);

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- b) "...the relative placement of the digits..." claim 28, line 3  
(see also claim 37 for the same problem);
- c) "...the user..." claim 30, line 3 (see also claim 39);
- d) "...the stylus..." claim 32, line 3 (Exr's comment: "stylus"  
can not be found in claim 27 );
- e) "...the stylus..." claim 33, line 2;
- f) "...the stylus..." claim 34, line 3;
- g) "...the stylus..." claim 35, line 3;
- h) "...the electronic input/output surface..."
- i) "...the stylus..." claim 36, line 6;
- j) "...the mathematical expression..." claim 36, line 12.

The following is a quotation of 35 U.S.C. § 103 which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

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6. Claims 26-44 are rejected under 35 U.S.C. § 103 as being unpatentable over Inagaki (4,578,811) in view of Bonadio (5,189,633).

7. As to claim 26, Inagaki taught the invention substantially as claimed including a system (e.g. see fig.1) comprising at least :

- a)a display [4] covered by touch sensitive surface (e.g. see col.3 lines 1-13);
- b)a processing circuit [10] [20] for recording and recognizing the movement of the traces on the surface (e.g see col.3 lines 1-13; col.3 lines 22-36), and for performing calculations indicated by the operand [2] [5] and operators [+] [+] and for displaying mathematical results;
- c)means [4] for simultaneously displaying the operand [5] [2] and operators [=] [+] of the mathematical expression on the display (e.g. see col.3 line 10).

8. Inagaki did not specifically show the display of the mathematical result and the mathematical expression are simultaneously displayed on the screen as claimed. However, Bonadio disclosed a mathematical expression [205] simultaneously displayed with the mathematical result [209] on the a display (e.g. see fig.2; col.6, lines 7-37). It would have been obvious to one of ordinary skill in the art at the time the claimed

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invention was made to use the display of Bonadio's mathematical expression and mathematical result in Inagaki for displaying the mathematical expression and result as claimed because the use of Bonadio's display could enhance the interfacing capability of Inagaki for manipulating the mathematical expressions and result more freely on the touch sensitive screen.

9. As to claim 27, Inagaki taught at least :

- a)a touch sensitive display [4] (e.g. see col.3 lines 1-8; col.5 lines 6-14);
- b)means [4] [10] [20] for recognizing handwritten input traced on the display , the handwritten input was a mathematical expression with operators and operand (e.g.  $5+2 =$  );
- c)means [4] for simultaneously displaying the operand [5] [2] and operators [=] [+] of the mathematical expression on the display (e.g. see col.3 line 10);
- d)means [20] [40] [CAL] for performing calculations indicated by the operators and operand(e.g. see col.3 lines 22-46).

10. Inagaki did not specifically show the display of the mathematical result and the mathematical expression are simultaneously displayed on the screen as claimed. However, Bonadio disclosed a mathematical expression [205 initial equation] simultaneously displayed with the mathematical result [209 resulting equation] on the a display (e.g. see fig.2; col.6,

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lines 7-37). It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to use the display of Bonadio's mathematical expression and mathematical result in Inagaki for displaying the mathematical expression and result as claimed because the use of Bonadio's display could enhance the interfacing capability of Inagaki for manipulating the mathematical expressions and result more freely on the touch sensitive screen.

11. As to claims 28,37, Bonadio also recognized a number of digits as a single number (e.g. see col.17, lines 37-40).
12. As to claims 29,38, Bonadio also recognized his mathematical expressions horizontally and vertically (e.g. see fig.19).
13. As to claims 30,39, Inagaki also disclosed a tracing of a result operator [=] (e.g. see col.3 lines 10-13).
14. As to claims 31,40, Bonadio also animated his mathematical expressions (e.g. see col.5, lines 26-29; col.22 line 39).
15. As to claims 32,41, Bonadio also corrected (e.g. see the editing of the mathematical expressions) his mathematical expressions (e.g. see Abstract, line 3-12).
16. As to claims 33,42, Bonadio also annotated and labelled the recognized movements (e.g. see col.7 lines 2-8).
17. As to claims 34,43, Bonadio also accepted insertions of mathematical expressions (e.g. see col.9, lines 8-25; col.9 lines 42-47 for substitution).

18. As to claims 35,44, Bonadio also included deletions of mathematical expressions (e.g. see col.10, lines 52-54, lines 66-68; col.11, lines 1-2).

19. As to claim 36, Inagaki taught at least steps of :

a) recording movements of a pointing device (e.g. see col.3 lines 1-13);

b) recognizing the movements of a finger tracing a display (e.g. see col.3 lines 1-13);

c) converting the input characters into mathematical expressions comprised of operand and operators (e.g. see col.3 lines 1-13, lines 22-36, lines 53-68; col.4 lines 1-12);

d) displaying the mathematical expression including the operators and operand (e.g. see col.3 lines 8-13; col.4 lines 4-11);

e) performing the calculations indicated by the expression (e.g. see col.4 lines 4-11);

f) displaying the result (e.g. see col.4 lines 11-12).

20. Inagaki did not specifically show the display of the mathematical result and the mathematical expression are simultaneously displayed on the screen as claimed. However, Bonadio disclosed a mathematical expression [205] simultaneously displayed with the mathematical result [209] on the a display (e.g. see fig.2; col.6, lines 7-37). It would have been obvious to one of ordinary skill in the art at the time the claimed

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invention was made to use the display of Bonadio's mathematical expression and mathematical result in Inagaki for displaying the mathematical expression and result as claimed because the use of Bonadio's display could enhance the interfacing capability of Inagaki for manipulating the mathematical expressions and result more freely on the touch sensitive screen.

21. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a) "Recognizing All Possible Capabilities" by Henry Norr , MacWEEK, V6, n22 P10(1), June 08, 1992
- b) Ure et al. (5,307,423)
- c) Gupta et al. (5,307,423)
- d) Behrens et al. (4,899,137)

In regard with the 1449 filed by the applicant on May 22 95, applicant is advised to provide the publication date for each of the following :

- a) "Nope. It Wasn't Steroids!" MICROSLATE;
- b) "Microsoft Windows™ for PEN Computing Resource Guide: Pens, ";
- c) "SuperScript II DISPLAY TABLET," SuperScript Inc.;
- d) "Sales Automation Solutions: General Programming, Inc. uses Infolio™ to premiere Sales-Manager™ tool," PI Systems Corporation;
- e) "de-ja vu," Slate Corporation;

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- f) "Desktop Pen Computing," FTG Data System;
- g) "Wacom Application Report 6 For Pen Computer Manufacturers and Software Developers,"
- h) "The Newest Advancement in Computers...THE PEN!"
- i) "Numbers to go: Pencil Portable Spreadsheet," PenWare, Inc.;
- j) "AMS Donates Pen Computing Exhibit to The Computer Museum,".

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel H. Pan whose telephone number is (703) 9696.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305 9600.

DP/09/12/95

DANIEL,  
PATENT EXAMINER  
GROUP 2300

